

AMENDMENTS TO THE CLAIMS

Claims 1-21 (Canceled)

22. (Previously Presented) A dorsolumbar and lumbosacral vertebral fixation system, wherein the system comprises at least one connector or coupling, a rod, a transversal traction device and vertebral fixation elements, adapted to be assembled together,

wherein a first assembly stage of the system includes vertebral fixation elements, adapted to be connected either to pedicles or vertebral laminae, a second stage of the system includes a rod inserted through the connectors or couplings, and a third stage includes the at least one connector or coupling connected to tails of the vertebral fixation elements by means of locknuts,

wherein the tails of the vertebral fixation elements are threadedly adapted to be screwed to the at least one coupling or connected to the rod; and

wherein the at least one connector or coupling includes an annular body and two clamp elements and an open swivel inside of the annular body.

23. (Canceled)

24. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 22, wherein, with the two clamp elements open in their natural position, the open swivel turns freely in the annular body in a radius exterior to the open swivel slightly smaller than an inside of the annular body, both being concentric radii.

25. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 22, wherein the two clamp elements have a transversal circular orifice into which the tail of the device for vertebral fixation is inserted.

26. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 22, wherein the two clamp elements have an adjustable transversal orifice that allows for different tail positions of the device for vertebral fixation.

27. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 22, wherein the open swivel is hollow with a circular shape through which the rod passes.

28. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 22, wherein an exterior surface of the open swivel has a rough finish, which allows for better contact between surfaces when tightened.

29. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 22, wherein a screw tightness of the tail of the device for vertebral fixation on the two clamp elements, closes a body of the two clamp elements which, in turn, closes the open swivel, thus tightening onto the rod, fixing the at least one connector or coupling in place.

30. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 41, wherein, an expansion screw is used as the device for vertebral fixation, the expansion screw being a hollow pedicle screw, smooth on the inside, through which a pin is passed.

31. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 30, wherein a screw head of the expansion screw has an interior thread in order to threadably receive a screw head of the pin.

32. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 30, wherein the expansion screw includes longitudinal slots that start towards a middle the expansion screw, the longitudinal slots being opened by fully inserting the pin .

33. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claims 30, wherein a diameter of a lower third of the expansion screw, when the pin is fully inserted, progressively increases towards an end of the expansion screw, until the diameter reaches a maximum at the end when completely expanded.

34. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 30, wherein the expansion screw is used in cases of osteoporosis vertebrae, reinterventions and for the sacral vertebrae, in order not to penetrate the anterior cortical layer.

35. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 30, wherein prior to the insertion of the expansion screw, the bone is tapered to the same thread as an external thread of the expansion screw.

36. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 30, wherein the expansion screw has a longitudinal interior hollow conduit, with an internal taper towards an end of the expansion screw, in such a way that when the pin is inserted, without a head of the pin reaching the tail of the expansion screw, a tip of the pin reaches the internal taper.

37. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 36, wherein, when the head of the pin reaches the tail of the expansion screw, the tip of the pin opens the internal taper forcing longitudinal slots of the expansion screw to open out, expanding the expansion screw against the sponginess of the vertebral body.

38. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 41, wherein, a laminar hook is used as the device for vertebral fixation, the hook coupling onto the vertebral lamina by means of a hook finger, and the hook is screwed to the at least one coupling at a top thereof.

39. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 41, wherein, a pedicle hook is used as the device for vertebral fixation, the pedicle hook coupling onto the pedicle of the vertebra by means of a concave shape on a finger of the hook, and the hook is screwed to the at least one coupling at a top thereof.

40. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 42, wherein the open tail hook has an opening and is adapted to receive the rod inside of its opening.

41. (Previously Presented) A dorsolumbar and lumbosacral vertebral fixation system, comprising:

at least one connector or coupling;

a rod; and

a device for vertebral fixation,

wherein a tail of the device for vertebral fixation is threadedly adapted to be screwed to the at least one connector or coupling, and the at least one connector or coupling is adapted to be attached to the rod,

the device for vertebral fixation is adapted to be introduced to either a pedicle or vertebral laminae,

the rod is adapted to be inserted through the at least one connector or coupling, the at least one connector or coupling is adapted to be connected to the tail of the device for vertebral fixation; and

wherein the at least one connector or coupling includes an annular body and two clamp elements and an open swivel inside of the annular body.

42. (Currently Amended) A dorsolumbar and lumbosacral vertebral fixation system, comprising:

at least one connector or coupling;

a rod;

a device for vertebral fixation comprising a hook adapted to be fixed to the rod by attachment of an open tail of the hook directly to the rod, and

a device for vertebral fixation comprising a hook and/or a finger threadedly adapted to be screwed to the coupling or connector to the rod,

wherein the devices for ~~vertical~~vertebral fixation are adapted to be introduced to either a pedicle or ~~vertical~~vertebral laminae, and the open tail of the device for vertebral fixation is adapted to be attached to the rod and locked into place by a setscrew on the inside of the open tail and a locknut on the outside of the open tail.